

AMENDMENTS TO THE CLAIMS:

1. - 27. (Cancelled)

28. (Withdrawn) A microfluidic arrangement, for metering first metered amounts of liquid (A) and for separating the latter from a second amount of liquid (B) via a gaseous phase, comprising:

a first channel and second channels;

the first channel has one inlet and one outlet;

in the area of the outlet, the arrangement has a capillarity, which is greater than or equal to the capillarity in the area of the inlet, whereby the capillarity moves an amount of fluid in the first channel from its inlet to its outlet;

each second channel branches off from the first channel at a branch point, the branch points located sequentially along the first channel;

the second channels have a greater capillary force than the first channel at the branch points;

a second channel begins filling when the second channel connected to a preceding branch point is completely filled,

the second channel having a section with a cavity in the form of a recess,
and

the second channels have a predetermined volume.

29. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein the greater capillarity of the one or more second channels at the branch points compared to the capillarity of the first channel is set by the suddenly changing geometrical properties at the transitions from the first channel to the one or more second channels.

30. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein the greater capillarity of the one or more second channels at the branch points compared to the capillarity of the first channel is set by the suddenly changing surface properties of the walls at the transitions from the first channel to the one or more second channels.

31. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein the one or more second channels begin at the branch points and end at a means for stopping a liquid flow.

32. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein an inlet reservoir is connected upstream of the inlet of the first channel.

33. (Withdrawn) The microfluidic arrangement as claimed in claim 32, wherein the inlet reservoir has a capillarity which is less than or equal to the first channel in the area of the inlet.

34. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein an outlet reservoir is connected downstream of the outlet of the first channel.

35. (Withdrawn) The microfluidic arrangement as claimed in claim 34, wherein the outlet reservoir has a capillarity greater than or equal to the first channel in the area of the outlet.

36. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein the first channel between the inlet and the outlet is divided into sections and thus a first channel system is formed.

37. (Withdrawn) The microfluidic arrangement as claimed in claim 36, wherein the sections of the first channel have a capillarity, which increases, from the inlet to the outlet.

38. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein the one or more second channels are divided into sections and thus form a second channel system.

39. (Withdrawn) The microfluidic arrangement as claimed in claim 38, further comprising stopping means on said second channels wherein the capillarity of the sections of the one or more second channels remains the same or increases from the branch points as far as the stopping means.

40. (Withdrawn) The microfluidic arrangement as claimed in claim 39, wherein one third channel at a time is connected to the stopping means.

41. (Withdrawn) The microfluidic arrangement as claimed in claim 40, wherein the capillarity of the third channels is greater than or equal to that of the one or more second channels.

42. (Withdrawn) The microfluidic arrangement as claimed in claim 39, wherein the stopping means are capillary stops.

43. (Withdrawn) The microfluidic arrangement as claimed in claim 39, wherein the stopping means are microvalves.

44. (Withdrawn) The microfluidic arrangement as claimed in claim 40, wherein the third channels each have one second outlet.

45. (Withdrawn) The microfluidic arrangement as claimed in claim 44, wherein the second outlets each have one microvalve or one capillary stop.

46. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein individual or all sections of the first channel system, of the second channel systems, of the third channel systems and/or the outlet reservoir are made meander-shaped.

47. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein individual or all sections of the first channel, of the one or more second channels and/or of the third channels are made as cavities.

48. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein there is an absorbent material in individual or all sections of the first channel, of the one or more second channels, and/or of the third channel systems and/or the outlet reservoir.

49. (Withdrawn) The microfluidic arrangement as claimed in claim 28, wherein the first channel in the area of the branch point is connected to an aeration channel.

50. (Withdrawn) A carrier, especially a sample carrier, wherein the carrier has a microfluidic arrangement as claimed in claim 28.

51. (Currently Amended) A microfluidic arrangement, for metering first metered amounts of liquid (A) and for separating the latter from a second amount of liquid (B) via a gaseous phase, comprising:

a first channel and second channels;

the first channel has one inlet and one outlet;

in the area of the outlet, the arrangement has a capillarity, which is greater than or equal to the capillarity in the area of the inlet, whereby the capillarity moves an amount of fluid in the first channel from its inlet to its outlet;

each second channel branches off from the first channel at a branch point, the branch points located sequentially along the first channel;

each of said second channels provided with an outlet;

each second channel having a predetermined volume forming an individual and discrete fluidic flow path with an individual fluidic outlet;

the second channels have a greater capillary force than the first channel at the branch points;

a plurality of third channels each provided with an inlet and outlet, each of said third channels situated downstream from one of said second channels; ~~and~~

a stopping means provided between the outlet of each of said second channels and the inlet of each of said third channels; and

said first channel, said second channels and said third channels all provided on the same planar surface.

52. (Currently Amended) A microfluidic arrangement, for metering first metered amounts of liquid (A) and for separating the latter from a second amount of liquid (B) via a gaseous phase, comprising:

a first channel and second channels;

the first channel has one inlet and one outlet;

in the area of the outlet, the arrangement has a capillarity, which is greater than or equal to the capillarity in the area of the inlet, whereby the capillarity moves an amount of fluid in the first channel from its inlet to its outlet;

each second channel branches off from the first channel at a branch point, the branch points located sequentially along the first channel;

at least one of said second channels begins at a branch point and ends at a means for stopping a liquid flow, and further wherein said at least one of said channels is divided into sections to form a second channel system, and further wherein the capillarity of said sections remains the same or increases from the branch points as far as said stopping means,

each second channel having a predetermined volume forming an individual and discrete fluidic flow path with an individual fluidic outlet;

the second channels have a greater capillary force than the first channel at the branch points;

a plurality of third channels, each third channel connected to a separate stopping means, each of said third channels having a second outlet,

wherein a second channel begins filling when the second channel connected to a preceding branch point is completely filled, and

further wherein liquid exiting the microfluidic arrangement after flowing through one of said second channels does not mix with fluid exiting the microfluidic arrangement through any of the other second channels; and

said first channel, said second channels and said third channels all provided on the same planar surface.

53. (Currently Amended) The microfluidic arrangement as claimed in claim 52, wherein said second channels are provided with a first portion abutting said branch point and a second portion abutting said outlet of each of said second channels, and further wherein said second channels are provided with ~~have a section with a cavity~~ in the form of a recess, said recess having a width greater than the width of the first and second portions of said second channels, said recess provided between said first and second portions of said second channels.

54. (Currently Amended) A microfluidic arrangement provided on a surface for metering first metered amount of liquid (A) and for separating the latter from a second amount of liquid (B) via a gaseous phase, comprising:

a first channel and second channels;

the first channel has one inlet and one outlet;

in the area of the outlet, the arrangement has a capillarity which is greater than or equal to the capillary force in the area of the inlet;

each second channel branches off from the first channel at one branch point;

the second channels have a greater capillary force than the first channel at the branch points;

each of the second channels has a predetermined volume;

each of the second channels begins at one of the branch points and ends at separate capillary stops;

each of the second channels is divided into a first section, a second section, and a third section and form a second channel system;

the first sections are made as grooves and thus form channels, the second sections are made as recesses, and the third sections are made as grooves and thus form channels;

each of the first sections is connected to the first channel at one of the branch points;

each of the second sections is connected to one of the first sections;

each of the third sections is connected to the capillary stop of one of the second sections and discharges into one of a plurality of capillary stops second outlets;

~~each of the capillary stops is connected to one of a plurality of third channels;~~

~~each of the third channels ends at a second outlet;~~

~~each of the second outlets has a capillary stop;~~

a cover; and

each of the first, second and third channels is arranged as grooves or troughs in a single planar surface, which is covered by the cover.

55. (New) The microfluidic arrangement in accordance with claim 51, further including a reservoir directly adjacent to and in fluid communication with said first channel, said reservoir provided on the same planar surface as said first channel, said second channels and said third channels.

56. (New) The microfluidic arrangement in accordance with claim 52, further including a reservoir directly adjacent to and in fluid communication with said first channel, said reservoir provided on the same planar surface as said first channel, said second channels and said third channels.

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57. (New) The microfluidic arrangement in accordance with claim 53, further including a reservoir directly adjacent to and in fluid communication with said first channel, said reservoir provided on the same planar surface as said first channel, said second channels and said third channels.